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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,214	08/29/2003	Masaaki Abe	1293.1871	7639

21171 7590 12/29/2005

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EXAMINER

CHERRY, EUNCHA P

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/651,214

Applicant(s)

ABE, MASA AKI

Examiner

EUNCHA P. CHERRY

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>8/29/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. The restriction requirement mailed on 6/15/05 is withdrawn.

Claims 1-31 are treated on the merit accordingly.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-15 and 17-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al (US 6,509,995 B1) in view of Aoki (US 5,805,199).

Regarding claims 1-3, 5-15, 17, 19, 21-26, and 28-31, Suzuki discloses a laser scanning apparatus scanning a bundle of light rays emitted from a light source of a monolithic multi-beam semiconductor laser in a main scanning direction by being reflected by a polygon mirror (Fig. 1), the apparatus comprising: a first lens to focus the bundle of light rays emitted from the light source (3a) and a second lens guiding the bundle of light rays transmitted by the first lens toward a

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deflection surface of the polygon mirror (3b), wherein the multi-beam semiconductor laser is installed such that an imaginary line drawn through light emitting points of the laser is inclined with respect to the main scanning direction (see Figs. 2A and 2B), the first lens is a convex lens having an anamorphic surface shape on at least one surface focusing the bundle of light rays (column 12, line 1-2) and the second lens is a cylindrical lens making the bundle of light rays a bundle of parallel light rays or a bundle of concentrated light rays in the main scanning direction (column 12, lines 3-5). The first lens has a surface shape to focus the bundle of light rays on the deflection surface of the polygon mirror through the second lens in a sub-scanning direction, which is perpendicular to the main scanning direction (column 11, lines 1-7). The first lens has a flat surface portion (see 3a) on which the first lens is installed. The first lens has an anamorphic surface shape at one or more of surfaces (column 12, line 1). The second lens has a curved surface, which is an aspherical surface and corrects aberration (column 13, lines 40-53). Further the apparatus comprises a photosensitive body (where 7 is located), wherein an inclination of the polygon mirror is corrected by forming a deflection surface of the polygon mirror and the photosensitive body to be a conjugate function (inherent) and f-

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theta lens (6). The semiconductor laser is inclined at an acute angle from a horizontal state with respect to the main scanning direction (see Figs. 2A and 2B). The surface of the second lens facing away from the first lens is a flat surface (see Fig. 3).

Suzuki et al lacks to disclose a slit disposed between the first and second lens. Aoki discloses a slit that is disposed between the lenses. It would have been obvious to one of ordinary skill in the art to place a slit between the lenses for the purpose of getting rid of unwanted light rays before the rays scan on the surface to be scanned.

Regarding claim 27, the method of scanning a bundle of light rays are inherently met by the disclosure of the present invention.

Regarding claims 18 and 20, Suzuki et al (US 6,509,995 B1) in view of Aoki (US 5,805,199) discloses the claimed invention as set forth above except for the size of the slit or the interval between the light emitting points of the semiconductor laser. It would have been obvious to one of ordinary skill in the art to choose the size and the interval since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

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Regarding claims 4 and 16, Suzuki et al in view of Aoki disclose the claimed invention as set forth above except for the first lens is made of glass or the second lens made of plastic, however, Suzuki et al in view of Aoki discloses the lenses to be in the reversed way, i.e. the first lens made of plastic (column 11, last line) and the second lens made of glass (column 12, line 3). It would have been obvious to one of ordinary skill in the art to make the first and second lenses to be reversed from each other because plastic and glass for lenses are interchangeable (column 11, lines 17-19).

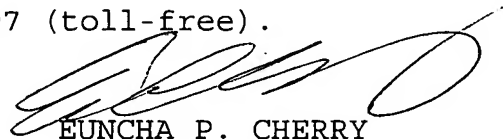
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUNCHA P. CHERRY whose telephone number is 571-272-2310. The examiner can normally be reached on M-F 6:30-4:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DREW DUNN can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EUNCHA P. CHERRY
Primary Examiner
Art Unit 2872

12/27/05